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FISH & WILDLIFE SERVICE

# INDEX OF FISHERY TECHNOLOGICAL PUBLICATIONS 1918-55

Includes
1961 - Author Index

Circular 96

Fish and Wildlife Service

United States Department of the Interior

# INDEX OF FISHERY TECHNOLOGICAL PUBLICATIONS OF THE FISH AND WILDLIFE SERVICE AND THE FORMER BUREAU OF FISHERIES 1918-55

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Circular 96

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# INTRODUCTION

This index lists and classifies, by subject and by author, publications printed during the period 1918 through 1955 that are of interest to persons in the field of fishery technology. Reports appearing in Government publications and in trade and scientific journals are included. In addition to the articles on strictly technological subjects, some articles on subjects in related fields have been listed. Fairly complete coverage, for example, has been made of the field of fishing vessels and fishing gear. The guiding principle in the indexing of the articles has been the specialized requirements of the fishery technologist.

For those interested principally in biological problems as well as with certain of those touching upon technology, two other bibliographies are available: Document 899, Appendix V to the Report of the United States Commissioner of Fisheries for Fiscal Year 1920, "An Analytical Subject Bibliography of the Publications of the Bureau of Fisheries, 1871-1920" by Rose M. E. MacDonald and Special Scientific Report--Fisheries No. 284, "Publications of the United States Bureau of Fisheries 1871-1940" by Barbara B. Aller.

The year 1918 was chosen as the first year to be covered by the present index because the first Technological Section of the old U. S. Bureau of Fisheries was set up in 1918. The index includes all publications received at Seattle by December 31, 1955.

The index is divided into three main categories: publication series, author index, and subject index.

The publication series is arranged according to the journal or other outlet in which the article was published as follows:

| Code | Publication |
|---|---|
| CFR | Commercial Fisheries Review |
| Doc | Documents |
| FL | Fishery Leaflets |
| FMN | Fishery Market News |
| IR | Investigational Reports |
| M | Miscellaneous official publications |
| P | Publications in scientific and trade journals |
| RR | Research Reports |
| Sep | Separates |
| SSR | Special Scientific Reports |
| SSR-F | Special Scientific Reports--Fisheries |

Each article in the publication series has been given a code number according to the outlet and sequence of publication, as for example:

CFR 1 Location of sardine schools by super-sonic echo-ranging, by Osgood R. Smith, vol. 1, No. 1, 1 (1947).
CFR 2 Methods of net mending, by Boris O. Knake, vol. 9, No. 3, 1 (1947).

The CFR means that the articles were published in Commercial Fisheries Review.

The author index is arranged alphabetically, and the code numbers of the publications of each author is given after his name, as for example:

Alverson, Dayton L. Sep 359; CFR 40, 114; FL 402

Information on these publications are to be found by looking in the Publication Series under the appropriate code numbers.

The subject index is arranged alphabetically according to subject:

Abalone
African Fisheries
Alaska Fisheries
Etc.

which will be found in the list of subjects given on page 93. Under each subject, the code numbers of pertinent articles are listed, which permits further information to be found under the corresponding code numbers in the publication series.

## Commercial Fisheries Review (CFR)

CFR 1. Location of sardine schools by super-sonic echo-ranging, by Osgood R. Smith, vol. 9, No. 1, 1 (1947)

CFR 2. Methods of net mending--New England, by Boris O. Knake, vol. 9, No. 3, 1 (1947)

CFR 3. Observation of Norwegian fisheries, vol. 9, No. 3, 51 (1947)

CFR 4. Foreign fishery trade--Newfoundland, vol. 9, No. 5, 47 (1947)

CFR 5. Inspection and handling of fish for export--Iceland, vol. 9, No. 6, 53 (1947)

CFR 6. The agar industry of North Carolina, vol. 9, No. 7, 32 (1947)

CFR 7. Federal legislation, decisions, orders, etc. Proposed changes for canned oysters, vol. 9, No. 11, 25 (1947)

CFR 8. Kite rigs for otter trawl gear, by R. T. Whiteleather, vol. 10, No. 6, 1 (1948)

CFR 9. Naples fishing industry, vol. 10, No. 9, 47 (1948)

CFR 10. Consumption and development of fisheries--Argentine Republic, vol. 10, No. 12, 31 (1948)

CFR 11. Experimental fishing trip to Bering Sea, by Joseph E. King, vol. 11, No. 1, 1 (1949)

CFR 12. Effect of refreezing on quality of sea trout fillets, by S. R. Pottinger, Rose G. Kerr, and W. S. Lanham, Jr., vol. 11, No. 1, 14 (1949)

CFR 13. The shrimp fishery of the southern United States, by W. W. Anderson, M. J. Lindner, and J. E. King, vol. 11, No. 2, 1 (1949)

CFR 14. Markets for airborne seafoods, vol. 11, No. 4, 26 (1949)

CFR 15. Vitamin A in liver of the Alaska fur seal, by F. B. Sanford, K. W. Kenyon, and V. B. Scheffer, vol. 11, No. 4, 13 (1949)

CFR 16. New trawler with fish meal and oil plant aboard, vol. 11, No. 4, 50 (1949)

CFR 17. New Arctic research vessel (British vessel Ernest Holt), vol. 11, No. 4, 59 (1949)

CFR 18. Fisheries review--Portugal, vol. 11, No. 6, 47 (1949)

CFR 19. Inland fisheries, 1948, vol. 11, No. 6, 40 (1949)

CFR 20. The methods of collecting and processing the mussel, by L. W. Scattergood and C. C. Taylor, vol. 11, No. 10, 8 (1949)

CFR 21. Technical Note No. 1 - Apparatus for weighing and transfer of materials, by William Clegg, vol. 11, No. 12, 14 (1949)

CFR 22. Technical Note No. 2 - Apparatus for evaporation of low-boiling, inflammable solvents, by Roberto Mercado, vol. 12, No. 1, 25 (1950)

CFR 23. Feeding tests with gallic acid ester antioxidants, by H. W. Nilson, M. Bender, and D. B. Darling, vol. 12, No. 2, 19 (1950)

CFR 24. Development of German free-swimming trawls, vol. 12, No. 3, 50 (1950)

CFR 25. Technical Note No. 3 - Fish meal in animal and poultry feeding, vol. 12, No. 5, 24 (1950)

CFR 26. Research in Service laboratories--Composition of sole, vol. 12, No. 6, 10 (1950)

CFR 27. Technical Note No. 4 - Fishery byproducts for animal feeding, by Hugo Nilson, vol. 12, No. 6, 11 (1950)

CFR 28. Research in Service laboratories--Storage life of pink salmon fillets, vol. 12, No. 7, 11 (1950)

CFR 29. Research in Service laboratories--(Antioxidants), vol. 12, No. 7, 11 (1950)

CFR 30. Angola fishing survey, by Robert W. Tyson, vol. 12, No. 8, 30 (1950)

CFR 31. Greenland: Development of the fisheries, vol. 12, No. 8, 44 (1950)

CFR 32. Description of the exploratory fishing vessel "John N. Cobb," by J. G. Ellson, vol. 12, No. 9, 1 (1950)

CFR 33. Fishery technological research program, 1950-1951, vol. 12, No. 11a, 3 (1950) Supplement

CFR 34. Preliminary report on 1950 North Pacific albacore tuna explorations of the John N. Cobb, by Donald E. Powell, vol. 12, No.12, 1 (1950)

CFR 35. New reduction process to be used by new herring plant--Iceland, vol. 12, No. 12, 41 (1950)

CFR 36. Technical Note No. 9 - Characteristics of oil from cold-rendered fur-seal blubber, by William Clegg, vol. 13, No. 2, 30 (1951)

CFR 37. West Coast shrimp industry has growth difficulties--Mexico, vol. 13, No. 3, 34 (1951)

CFR 38. Technical Note No. 11 - Alaska salmon cannery waste being used at Fish and Wildlife Service hatcheries, vol. 13, No. 9, 7 (1951)

CFR 39. Research in Service laboratories: Oil content of Pacific Coast rockfish and Atlantic ocean perch, vol. 13, No. 10, 10 (1951)

CFR 40. Deep-water trawling survey off the coast of Washington (August 27 - October 19, 1951), by D. L. Alverson, vol. 13, No. 11, 1 (1951)

CFR 41. United States lobster and spiny lobster production (1921-49) and imports (1920-49), by Leslie W. Scattergood and D. Arthur McKown, vol. 13, No. 12, 1 (1951)

CFR 42. Research in Service laboratories: Riboflavin and niacin content at different stages of sardine (pilchard) meal manufacture, vol. 13, No. 12, 13 (1951)

CFR 43. Research in Service laboratories: Riboflavin, niacin, and vitamin $B_{12}$ content of sardines and menhaden before and after Viobin processing, vol. 13, No. 12, 13 (1951)

CFR 44. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (yellow pike, sheepshead, blue pike), vol. 13, No. 12, 13, 14 (1951)

CFR 45. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (yellow perch, and white fish), vol. 14, No. 1, 17 (1952)

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CFR 47. Research in Service laboratories: Riboflavin and niacin loss in sardine meal processing, vol. 14, No. 3, 22 (1952)

CFR 48. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (blue pike, and sheepshead), vol. 14, No. 3, 22 (1952)

CFR 49. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (yellow perch and whitefish), vol. 14, No. 4, 21 (1952)

CFR 50. Research in Service laboratories: Cold-storage life and composition of fresh-water fish (whitefish, Lake Michigan smelt), vol. 14, No. 5, 13 (1952)

CFR 51. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (Columbia River smelt), vol. 14, No. 6, 21 (1952)

CFR 52. Research in Service laboratories: Vitamin content and nutritive value of fishery products (pilchard), vol. 14, No. 6, 22 (1952)

CFR 53. Exploratory shrimp fishing in the Gulf of Mexico, 1950-51 (Progress Report), by Stewart Springer and Harvey R. Bullis, vol. 14, No. 7, 1 (1952)

CFR 54. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (buffalo fish and carp), vol. 14, No. 8, 13 (1952)

CFR 55. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (Lake Michigan chub), vol. 14, No. 9, 20 (1952)

CFR 56. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (Lake Michigan chub), vol. 14, No. 10, 27 (1952)

CFR 57. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (sheepshead and bullhead), vol. 14, No. 11, 10 (1952)

CFR 58. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (bullhead), vol. 14, No. 12, 15 (1952)

CFR 59. Technical Note No. 23 - Feeding fish meals and solubles to chickens does not affect flavor of meat, by Hugo W. Nilson, vol. 14, No. 12a, 41 (1952) Supplement

CFR 60. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (carp, lake trout), vol. 15, No. 2, 30 (1953)

CFR 61. Research in Service laboratories: Vitamin content and nutritive value of fishery byproducts (tuna, mackerel, and herring meals), vol. 15, No. 4, 17 (1953)

CFR 62. Research in Service laboratories: Composition and cold-storage life of fresh-water fish (waste portion), vol. 15, No. 4, 17 (1953)

CFR 63. Research in Service laboratories: Freezing fish at sea, defrosting, filleting, and refreezing the fillets (scrod and haddock), vol. 15, No. 5, 20 (1953)

CFR 64. Research in Service laboratories: Refrigeration: Freezing fish at sea, defrosting, filleting, and refreezing the fillets - scrod and haddock, vol. 15, No. 7, 18 (1953)

CFR 65. Research in Service laboratories: Technical Note No. 27 - Alaska pollock: Proximate composition; amino acid, thiamine, and riboflavin content; use as mink feed, by R. G. Landgraf, Jr., vol. 15, No. 7, 20 (1953)

CFR 66. Research in Service laboratories: Composition of fish: Abalone, vol. 15, No. 9, 8 (1953)

CFR 67. Research in Service laboratories: Progress on projects, September 1953. Proximate composition of sheepshead, vol. 15, No. 10, 17 (1953)

CFR 68. Research in Service laboratories: Proximate composition of squawfish caught in the Columbia River, vol. 15, No. 10, 18 (1953)

CFR 69. Research in Service laboratories: Program for fishery technological research, fiscal year 1954, vol. 15, No. 10, 25 (1953)

CFR 70. Research in Service laboratories: Freezing fish at sea--New England, vol. 15, No. 11, 25 (1953)

CFR 71. Research in Service laboratories: Vitamin content and nutritive value of fishery byproducts (niacin assays on menhaden and crab meal), vol. 15, No. 11, 25 (1953)

CFR 72. Underwater listening experiments near school of menhaden and little tuna, vol. 15, No. 11, 32 (1953)

CFR 73. Blue fin tuna caught in northern Gulf of Mexico by "Oregon," vol. 15, No. 11, 32 (1953)

CFR 74. New England tuna explorations, vol. 15, No. 11, 33 (1953)

CFR 75. Research in Service laboratories: Development of a dried product from condensed menhaden solubles or stickwater, vol. 15, No. 12, 13 (1953)

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CFR 77. Research in Service laboratories: Proximate composition of sheepshead, vol. 15, No. 12, 14 (1953)

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CFR 79. New England tuna explorations, vol. 15, No. 12, 27 (1953)

CFR 80. Report on development of Newfoundland fisheries, vol. 16, No. 1, 26-30 (1954)

CFR 81. Pacific oyster standards proposed, vol. 16, No. 1, 42 (1954)

CFR 82. Research in Service laboratories: Sulfide discoloration in canned tuna, vol. 16, No. 2, 11-12 (1954)

CFR 83. Research in Service laboratories: Amount of drip in frozen rockfish, vol. 16, No. 2, 12 (1954)

CFR 84. Provisions of Saltonstall-Kennedy Fisheries Bill (83rd Congress - second session), vol. 16, No. 2, 62-63 (1954)

CFR 85. Research in Service laboratories: Pharmaceutical and industrial products from salmon eggs, vol. 16, No. 4, 12-13 (1954)

CFR 86. Research in Service laboratories: Proximate composition of fresh-water fish (chub), vol. 16, No. 5, 21 (1954)

CFR 87. Research in Service laboratories: Proximate composition of 10 miscellaneous species of fish caught incidental to shrimp trawling (butterfish, catfish, croaker, lizardfish, mullet, menhaden, porgy, sea robin, spot, white trout, and white bass), vol. 16, No. 6, 6 (1954)

CFR 88. Research in Service laboratories: Proximate composition of several species of Alaska fish (whitefish, trout, pike, herring), vol. 16, No. 7, 20 (1954)

CFR 89. Progress on fiscal year 1954 fishery research projects, vol. 16, No. 8, 12-20 (1954)

CFR 90. Reports published during fiscal year 1954 on fishery technological research, vol. 16, No. 8, 20-21 (1954)

CFR 91. Program for fishery technological research fiscal year 1955, vol. 16, No. 8, 22-26 (1954)

CFR 92. Research in Service laboratories: Keeping quality of chilled Dungeness crab meat packed in hermetically sealed containers, by C. J. Carlson, vol. 16, No. 11, 20-21 (1954)

CFR 93. Outlines of a long-range frozen fish program for the Armed Forces, by Stanley R. Peterson, vol. 17, No. 1, 1-7 (1955)

CFR 94. Use of an electrical attracting and guiding device in experiments with a "fish pump," by Keith A. Smith, vol. 17, No. 2, 1-7 (1955)

CFR 95. Japanese high-seas mothership-type drift gill-net salmon fishery--1954, by Francis M. Fukuhara, vol. 17, No. 3, 1-12 (1955)

CFR 96. Use of underwater television in fishing-gear research (Preliminary Report), by Reider F. Sand, vol. 17, No. 4, 1-5 (1955)

CFR 97. Bottom fish and shellfish explorations in the Prince William Sound area, Alaska, 1954, by E. A. Schaefers, K. A. Smith, and M. R. Greenwood, vol. 17, No. 4, 6-28 (1955)

CFR 98. The pound-net fishery in Virginia, by George K. Reid, Jr., vol. 17, No. 5, 1-15 (1955)

CFR 99. Gulf of Maine bluefin-tuna exploration--1954, by J. J. Murray, vol. 17, No. 6, 17-21 (1955)

CFR 100. Research in Service laboratories: Development of voluntary federal standards of grade for fresh and frozen fishery products, by Arthur J. Nolte, vol. 17, No. 6, 22-25 (1955)

CFR 101. Literature review of factors that may affect processed feeds quality, by Neva L. Karrick, vol. 17, No. 6, 25-32 (1955)

CFR 102. Freezing fish at sea--New England. Part 9 - Improvements in the brine-freezing mechanism on the trawler Delaware, by C. G. P. Oldershaw, vol. 17, No. 7, 1-8 (1955)

CFR 103. Freezing fish at sea--New England. Part 10 - Studies of miscellaneous handling problems, by Harris W. Magnusson, vol. 17, No. 7, 9-16 (1955)

CFR 104. Research in Service laboratories: Packaging frozen fish in tin results in superior storage life, by M. E. Stansby, vol. 17, No. 7, 17-20 (1955)

CFR 105. Technical Note No. 32 - Freezing rates and energy requirements for freezing packaged fish fillets and fish sticks in a multiplate-compression freezer, by J. W. Slavin, vol. 17, No. 7, 21-26 (1955)

CFR 106. Behavior of shrimp trawl viewed with underwater television, vol. 17, No. 7, 32-33 (1955)

CFR 107. Federal specifications for fishery products, by F. T. Piskur, vol. 17, No. 8, 9-10 (1955)

CFR 108. Reduction of curd in canned salmon prepared from frozen fish, Part I - Use of tartaric-acid and sodium-chloride brine dips, by John A. Dassow and Howard J. Craven, vol. 17, No. 8, 1-5 (1955)

CFR 109. Winter smelt fishing out of Escanaba, Michigan, by A. A. Swanson, vol. 17, No. 8, 6-8 (1955)

CFR 110. Chemical changes in fish protein during freezing and storage, vol. 17, No. 8, 10-11 (1955)

CFR 111. Unidentified growth factors in fish byproducts, vol. 17, No. 8, 11-14 (1955)

CFR 112. Regime of the high seas and the conservation of the world's fisheries resources, vol. 17, No. 9, 1-13 (1955)

CFR 113. Early experiences with fish oils--A retrospect, by Charles E. Bills, vol. 17, No. 9, 14-16 (1955)

CFR 114. Freezing and cold storage of Pacific Northwest fish and shellfish: Part V - Palatability and cold-storage life of blacktip rockfish (Sebastodes aleutianus) and flag rockfish (Sebastodes rubrivinctus), by D. T. Miyauchi and D. L. Alverson, vol. 17, No. 9, 17-18 (1955)

CFR 115. Fishery technological research program. Part I - Progress fiscal year 1955, pp. 20-30; Part II - Reports fiscal year 1955, pp. 30-32; Part III - Saltonstall-Kennedy contracts 1955, pp. 32-33; Part IV - Research program fiscal year 1956, pp. 33-40, vol. 17, No. 9 (1955)

CFR 116. Preliminary report on exploratory long-line fishing for tuna in the Gulf of Mexico and Caribbean Sea: Part I - Exploratory tuna fishing by the Oregon, by Harvey R. Bullis, Jr., pp. 1-15; Part II - Long-line gear used in yellowfin tuna exploration, by Francis J. Captiva, pp. 16-20, vol. 17, No. 10 (1955)

CFR 117. Brine dipping of haddock fillets, by J. Holston and S. R. Pottinger, vol. 17, No. 10, 21-30 (1955)

CFR 118. Research in Service laboratories: Technological research on the fresh-water fisheries of the U. S., by M. E. Stansby, vol. 17, No. 10, 31-34 (1955)

CFR 119. Research in Service laboratories: Iron-sulfide discoloration of tuna cans, by George Pigott and M. E. Stansby, vol. 17, No. 10, 34-39 (1955)

CFR 120. Research in Service laboratories: Jellied salmon, vol. 17, No. 10, 40 (1955)

CFR 121. Bone detection in fish by X-ray examination, by Anthony J. Frascatore,Jr. and J. A. Holston, vol. 17, No. 11, 1-11 (1955)

CFR 122. How to cook frozen fish without prethawing. Part I - Determination of optimum internal temperature for baked frozen halibut steaks, by Kathryn L. Osterhaug and Marian M. MacFarlane, vol. 17, No. 11, 12-14 (1955)

CFR 123. Research in Service laboratories: Effect of cooking oil quality and storage conditions on the keeping quality of frozen, fried fish sticks, by John A. Holston, vol. 17, No. 11, 15 (1955)

CFR 124. Research in Service laboratories: Commercial-scale freezing-fish-at-sea trip made by the Delaware, by J. W. Slavin, vol. 17, No. 11, 16-17 (1955)

CFR 125. Feeding studies with menhaden press cake, by Hugo W. Nilson, vol. 17, No. 11, 17-18 (1955)

CFR 126. Research in Service laboratories: Cold-storage life of fresh-water fish--No. 2 (squawfish, chub, bass), by Kathryn L. Osterhaug and D. T. Miyauchi, vol. 17, No. 11, 19-21 (1955)

CFR 127. Construction details of improved tuna long-line gear used by Pacific Oceanic Fishery Investigations, by Herbert J. Mann, vol. 17, No. 12, 1-10 (1955)

CFR 128. Research in Service laboratories: Cold storage of frozen Pacific oysters (Crassostrea gigas) No. 1, by Kathryn L. Osterhaug and Murray Andrews, vol. 17, No. 12, 11-14 (1955)

CFR 129. Research in Service laboratories: Oil research project at the Seattle Technological Laboratory, by William N. Sumerwell, vol. 17, No. 12, 14-17 (1955)

CFR 130. Nutrition and composition (frozen fish from Bering Sea), vol. 12, No. 6, 10 (1950)

CFR 131. Research in Service laboratories: Proximate composition and vitamin content of fish meals (sardine, tuna, menhaden, whale loin, mackerel, anchovy, crab, herring), vol. 16, No. 2, 11 (1954)

CFR 132. Research in Service laboratories: Proximate composition and vitamin content of fishery meal (menhaden, blue crab), vol. 16, No. 3, 13 (1954)

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Doc 868. Crab industry of Chesapeake Bay, by E. P. Churchill, Jr. Appendix IV, Report of the Commissioner of Fisheries, 1918, 25 pp., XII pl. 1919.

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Doc 886. Marine algae of Beaufort, North Carolina, and adjacent regions, by W. D. Hoyt, December 30, 1920. Bulletin of the Bureau of Fisheries, vol. 36, 1917-1918, pp. 367-556.

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Doc 898. Preservation of fish nets, by Harden F. Taylor. Appendix IV, Report of the Commissioner of Fisheries, 1920, 35 pp., illus., 1921.

Doc 899. An analytical subject bibliography of the publications of the Bureau of Fisheries, 1871-1920, by Rose M. E. MacDonald, 1921. Appendix V, Report of the U. S. Commissioner of Fisheries, 1920, 306 pp.

Doc 902. Pacific salmon fisheries, by John N. Cobb, 1921. 3rd ed. Appendix I, Report of the U. S. Commissioner of Fisheries, 1921, 268 pp., illus.

Doc 903. Improvements in process of salting river herring, especially adapted to warm climates, by Harden F. Taylor, 1921. Appendix II, Report of the U. S. Commissioner of Fisheries, 1921, 7 pp.

Doc 919. Principles involved in the preservation of fish by salt, by Harden F. Taylor, 1922. Appendix II, Report of the U. S Commissioner of Fisheries, 1922, 22 pp.

Doc 920. Shellfish resources of the northwest coast of the United States, by Charles H. Edmondson, 1922. Appendix III, Report of the U. S Commissioner of Fisheries, 1922, 21 pp., illus.

*Doc 921. Deductions concerning the air bladder and the specific gravity of fishes, by Harden F. Taylor, 1922. Bulletin of the Bureau of Fisheries, vol. 38, 1921-1922, pp. 121-126.

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*Doc 937. Fisheries prosecuted by California fishermen in Mexican waters, by R. A. Coleman, 1923. Appendix XIV, Report of the U. S. Commissioner of Fisheries, 1922, 9 pp.

*Doc 947. Properties and values of certain fish-net preservatives, by Harden F. Taylor and Arthur W. Wells, 1923. Appendix I, Report of the U. S. Commissioner of Fisheries, 1923, 69 pp., illus.

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*Doc 974. Growth and degree of maturity of chinook salmon in the ocean, by Willis H. Rich, 1925. Bulletin of the Bureau of Fisheries, vol. 41, 1925, pp. 15-90, illus.

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MS #1226

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